

## *Abstract*

5 The present invention is drawn to a method of controlling gene expression in plants. Specifically, the method comprises obtaining a transgenic plant comprising at least two receptor expression cassettes and at least one target expression cassette. The first receptor expression cassette comprises a nucleotide sequence for a 5' regulatory region operably linked to a nucleotide sequence which encodes a first receptor polypeptide, and a 3' termination region. The second receptor expression cassette comprises a nucleotide sequence for a 5' regulatory region operably linked to a nucleotide sequence which encodes a second receptor polypeptide, and a 3' termination region. The target expression cassette comprises a nucleotide sequence for a 5' regulatory region operably linked to a nucleotide sequence which encodes a target polypeptide, and a 3' termination region, wherein the 5' regulatory region of said target expression cassette is activated by said first and second receptor polypeptides in the presence of one or more chemical ligands which are complementary to the ligand binding domain of said receptor polypeptides, whereby expression of said target polypeptide is accomplished. The method is useful for controlling various traits of agronomic importance, such as plant fertility.